REMARKS

I. Disposition of the Claims

Claims 9-25 are pending in this application. Claims 1-8 have been cancelled. The claims have been amended to particularly point out and distinctly claim the subject matter which the applicants regard as their invention.

II. Rejections under 35 U.S.C. §103

Claims 1-24 stand rejected under 35 U.S.C. §103(a) as being obvious over Siroki (U.S. Patent 5,757,538) in view of Chou (U.S. Patent 5,772,905). Claims 1-8 have been cancelled. Accordingly, the rejection of these claims is moot. Reconsideration of the rejection of claims 9-24 is respectfully requested.

Siroki discloses an optical isolator having a wire grid polarizer formed on both surfaces of a Faraday rotator. The wire grid polarizer consists of polarization gratings. When light strikes the polarization gratings, most of the light is reflected off, and only a selected portion of the light passes through the polarization gratings into the Faraday rotator. To achieve high contrast, it is desirable to use a highly reflective material for the polarization gratings. Siroki teaches use of silver for the polarization gratings. As can be appreciated, for a highly reflective material such as silver, the reflection from the polarization gratings back to the source can be excessive if there is no mechanism in place to suppress it. It should be noted that coating the Faraday rotator with an anti-reflective material will not serve to suppress reflection of light off the polarization gratings.

The present invention provides a wire grid structure having an integral mechanism for suppressing reflection of rejected polarization. Specifically, independent claims 16 and 20 recite an integrated optical isolator and a wire grid polarizer, respectively, comprising a wire grid structure that is adapted to suppress reflection of rejected polarization. The wire grid structure comprises a dielectric material sandwiched between two metallic layers, where the dielectric material and metallic layers act in concert to suppress reflection of rejected polarization. Advantageously, the metallic layers can be selected to achieve high contrast, and the properties of the metallic and dielectric layers can be selected such that light incident on the wire grid structure cancels the rejected polarization in the dielectric layer.

As previously noted, Siroki does not teach a wire grid structure that suppresses reflection of rejected polarization in the manner recited in claims 16 and 20. Chou also fails to overcome the deficiency in Siroki because Chou only teaches a method of embossing a thin film carried on a substrate with a pattern. Therefore, Siroki, whether considered singly or in combination with Chou, cannot make claims 16 and 20 obvious. Withdrawal of the rejection of claims 16 and 20 over these references is respectfully requested. Claims 17-19 and 21-24, being dependent from either claim 16 or 20, are likewise patentable in view of the foregoing arguments. Claims 9-15 are also patentable over these references because they recite a method of making the wire grid polarizer recited in claim 20.

III. New Claim

Newly added claim 25 includes the limitation that the substrate recited in claim 20 is a magneto-optical garnet substrate. This limitation has support in the disclosure (see, for example, paragraph [0030] of the original application). No new matter has been added.

CONCLUSION

The rejected claims have been amended and/or shown to be allowable over the prior art. The applicants believe that this paper is fully responsive to each and every ground of rejection cited by the Examiner in the Office Action dated March 26, 2003, and that their application is now in condition for allowance.

Please apply any charges in connection with the filing of this response or any credits to Deposit Account No. 03-3325 (ref. SP01-087).

Respectfully submitted,

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